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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/587,998

Filing Date: August 01, 2006

Appellant(s): EIPPER ET AL.

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Burton A. Americk  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed September 21, 2010 appealing from the  
Office action mailed March 11, 2010.

**(1) Real Party in Interest**

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

**(2) Related Appeals and Interferences**

The following are the related appeals, interferences, and judicial proceedings known to the examiner which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal:

US Patent Applications 1/577,009, 11/659,624, 11/632,703, 11/813,833, 11/996,274, 11/996,489, 11/567,646

**(3) Status of Claims**

The following is a list of claims that are rejected and pending in the application: Claims 1-3 and 6-19 are pending and stand rejected.

**(4) Status of Amendments After Final**

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

**(5) Summary of Claimed Subject Matter**

The examiner has no comment on the summary of claimed subject matter contained in the brief.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being

maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

**(7) Claims Appendix**

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

**(8) Evidence Relied Upon**

5,712,336	Gareiss et al	1-1998
2002/0161113	Dvornic et al	10-2002

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1-3 and 6-19** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Gareiss et al (US 5,712,336)** in view of **Dvornic et al (US 2002/0161113)**.

**Regarding claims 1, 14-17**, Gareiss teaches a thermoplastic molding composition (Abstract), comprising

- A) from 10% to 97.9% by weight of at least one thermoplastic polyester (col. 1, line 8), and

- C) from 0 to 70% by weight of other additives (col. 1, lines 16-17).

However Gareiss does not teach that the thermoplastic molding composition further comprises a component

- B) at least one highly branched or hyperbranched polyester of AxBy type, where x is at least 1.1 and y is at least 2.1, or a mixture of these,

Dvornic teaches a hyperbranched polyester of the AxBy type (Abstract) where x is at least 1.1 and y is at least 2.1 ([0007]). Dvornic teaches that A and B are different monomers ([0006]) and that x and y are the number of functional groups present in A and B ([0012]). Dvornic teaches that the degree of branching is from 25% to 55 % ([0024]). Dvornic teaches that the hyperbranched polyester has both structural and molecular non-uniformity (see the structures on page 2). Dvornic also teaches that polymer compositions comprising highly branched polyester have a lower viscosity and better shear thinning properties for applications than similar compositions containing a chemically similar linear polyester ([0002]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the hyperbranched polyester of Dvornic to the composition of Gareiss. One would have been motivated to do so in order to receive the expected benefit of controlling and changing the ease of processability of the polyester material (Dvornic [0002]). They are combinable because they are concerned with the same field of endeavor, namely thermoplastics. Absent objective evidence to the contrary and based upon the teachings of the prior art, there would have been a reasonable expectation of success.

As to the amount of the hyperbranched polyester, it is the examiner's position that it is a result effective variable because changing them will clearly affect the type of product obtained. See MPEP § 2144.05 (B). Case law holds that "discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art." See *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

In view of this, it would have been obvious to one of ordinary skill in the art to utilize appropriate amounts of hyperbranched polyester to achieve the desired processability of the thermoplastic, including those within the scope of the present claims, so as to produce desired end results.

Modified Gareiss also does not explicitly teach the amounts of each component as recited in the instant claim, however, given that modified Gareiss teaches ranges which overlap significantly with the claimed amounts, it would have been obvious, based on the teachings of the prior art to use amounts of the components that are well within the range of the claimed invention as it is well settled that where the prior art describes the components of a claimed compound or compositions in concentrations within or overlapping the claimed concentrations a *prima facie* case of obviousness is established. See *In re Harris*, 409 F.3d 1339, 1343, 74 USPQ2d 1951, 1953 (Fed. Cir 2005); *In re Peterson*, 315 F.3d 1325, 1329, 65 USPQ 2d 1379, 1382 (Fed. Cir. 1997); *In re Woodruff*, 919 F.2d 1575, 1578 16 USPQ2d 1934, 1936-37 (CCPA 1990); *In re Malagari*, 499 F.2d 1297, 1303, 182 USPQ 549, 553 (CCPA 1974).

Gareiss fails to explicitly teach the OH number and the COOH number of component B, however, it discloses a highly branched or hyperbranched polyester of

AxBy type, where x is at least 1.1 and y is at least 2.1 (Dvornic, [0007]). It is therefore inherent that the highly branched polyester of modified Gareiss since such a property is evidently dependent upon the nature of the composition used. Case law holds that a material and its properties are inseparable. In re Spada, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

**Regarding claim 2 and 18-19**, modified Gareiss teaches that the polymer has a molar mass of about 1,000 to 10,000 (Dvornic, [0024]).

**Regarding claims 3 and 6**, modified Gareiss discloses the hyperbranched polyester as recited in the instant claims above, it is therefore inherent that the hyperbranched polyester has the corresponding glass transition temperature, the OH number and the COOH number as recited in the instant claims since such a property is evidently dependent upon the nature of the composition used. Case law holds that a material and its properties are inseparable. In re Spada, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

**Regarding claims 7-11**, modified Gareiss teaches a method of obtaining the hyperbranched polyester using the methods recited in the instant claims in which multifunctional alcohols are reacted with multifunctional carboxylic acids (Dvornic, [0014]). As the synthesis of these compounds elucidated in modified Gareiss will result in the same structural compositions as presently claimed, the method of synthesis is does not confer patentability to the claims, as these claims 7-11 are product-by-process claims, patentability of said claim is based on the recited product and does not depend

on its method of production. In re Marosi, 710 F2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). See MPEP 2113.

**Regarding claims 12 and 13**, modified Gareiss discloses all the limitations as set forth above.

In addition, modified Gareiss teaches that a fiber, foil or molding can be made (Gareiss, col. 9, lines 63-64) via injection molding (Gareiss, col. 10, lines 36-37).

**(10) Response to Argument**

**Appellant's argument:** Dvornic describes hyperbranched polymers and included in the long list of possible polymers mentioned therein is polyester. However, Dvornic does not include a polyester in any of the examples.

**Examiner's response:** *Although Dvornic may not have an exemplary embodiment which uses the hyperbranched polyester, nonetheless Dvornic can be used to teach the hyperbranched polyester because the specification clearly has such a teaching. Note the title of the Dvornic reference which clearly states that hyperbranched polyesters are taught. As such, it is appropriate to use Dvornic as a reference to teach the hyperbranched polyesters.*

**Appellant's argument:** Dvornic does not discuss blends of thermoplastic polymers and highly branched or hyperbranched polymers, but just discuss hyperbranched polymers.

**Examiner's response:** *Dvornic states that hyperbranched polymers can be employed in certain applications to achieve improved properties, just as thermoplastic processing characteristics, lower viscosity, and improved rheology as compared with*

*linear polymers having similar chemistry ([0004]). As such, it would have been obvious to a person of ordinary skill in the art at the time of the invention to substitute some of the linear polymer of the primary reference Gareiss with the hyperbranched polymer of Dvornic in order to affect the processing characteristics as taught by Dvornic.*

**Appellant's argument:** There is no teaching or suggestion found in Gareiss or Dvornic that the blends provide molding compositions with good flowability with good mechanical properties.

**Examiner's response:** *The examiner has set forth a rejection using the proper teaching, suggestion and motivation to combine the Gareiss and Dvornic references. Although the motivation to combine may be different than the applicant's stated benefit (namely molding compositions with good flowability with good mechanical properties), the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See Ex parte Obiaya, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).*

**Appellant's argument:** The references do not teach or suggest all the recitations of the claim method.

**Examiner's response:** *As the synthesis of these compounds elucidated in the combination of references will result in the same structural compositions as presently claimed, the method of synthesis is does not confer patentability to the claims, as these claims 7-11 are product-by-process claims, patentability of said claim is based on the*

*recited product and does not depend on its method of production. In re Marosi, 710 F2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). See MPEP 2113.*

**Appellant's argument:** As discussed in the specification, problems exist in including dendrimeric polyesters in polyester molding compositions, therefore a possible negative teaching should be considered.

**Examiner's response:** *This is merely appellant's conjecture without substantial data to support the allegation. There is no negative teaching in the prior art to prevent the combination of Gareiss and Dvornic.*

**Appellant's argument:** There is no guidance as to what result effective variable is achieve, i.e. good flowability with good mechanical properties. Applicant's cite the data in the specification which shows that the claimed polymer blend has unexpected or superior results.

**Examiner's response:** *The examiner has considered the data presented in the results. It is not persuasive most notably because the data is not commensurate with the scope of the claimed invention. For example, appellant claims component A) can be present in the range from 10 to 99.9% by weight. However, appellant provides data mainly in the 90-99 wt % range. Although there is one inventive sample in Table 1 (page 29) of the specification which has component A) present at 65 % by weight, there is no corresponding comparative data point to provide any indication of the performance of this particulate inventive example with a proper side-by-side comparison. The dataset does not provide enough information to fully understand the qualities of the composition throughout the scope of the claimed range of 10 to 99.9% by weight.*

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Doris L Lee/

Examiner, Art Unit 1764

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Supervisory Patent Examiner, Art Unit 1764

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